



This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original) An athermal optical element comprising a silver chloride or cesium bromide surface having a surface figure of <200 nm.

Claim 2 (amended) An athermal optical element comprising a surface of a crystalline, cubic, material with a surface figure of <200 nm, said material having an index of refraction, n , and a coefficient of expansion, α , such that:

$$dn/dT = -n\alpha,$$

wherein T is temperature.

Claim 3 (original) An optical element of claim 1 wherein said silver chloride or cesium bromide surface is coated.

Claim 4 (original) An optical element of claim 3 wherein said coating is an antireflection, index adjusting, filter, or interference coating.

Claim 5 (original) An optical element of claim 1 which is permanently affixed to a substrate by an adhesive which is not UV cured.

Claims 6-14 are canceled.

Claim 15 (amended) An athermal, optical composite material comprising at least two layers of different compositions and different values of dn/dT , wherein the total optical pathlength, nL , across said layers is essentially independent of temperature; and wherein n is index of refraction, L is the total thickness of the layers, T is temperature and at least two of said values of dn/dT have opposite signs.

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Claim 16 (original) A composite material of claim 15 wherein each of said layers comprises a glass composition, a crystalline material or a polymeric material.

Claim 17 (original) A composite material of claim 15 wherein said layers are glass/crystalline, glass/polymeric or polymeric/crystalline composites.

Claim 18 (original) A composite material of claim 17 having a surface with a surface figure of <200 nm.

Claims 19-29 are canceled.

Claim 30 (new) An athermal, optical composite material comprising at least two layers of different compositions, wherein the total optical pathlength, nL , across said two layers is essentially independent of temperature; and wherein n is index of refraction, L is the total thickness of the layers, and T is temperature.

Claim 31 (new) A composite material of claim 30 wherein each of said layers comprises a glass composition, a crystalline material or a polymeric material.

Claim 32 (new) A composite material of claim 30 wherein said layers are glass/crystalline, glass/polymeric or polymeric/crystalline composites.

Claim 33 (new) A composite material of claim 32 having a surface with a surface figure of <200 nm.

Claim 34 (new) An optical element comprising a silver chloride or cesium bromide surface having a surface figure of <200 nm.